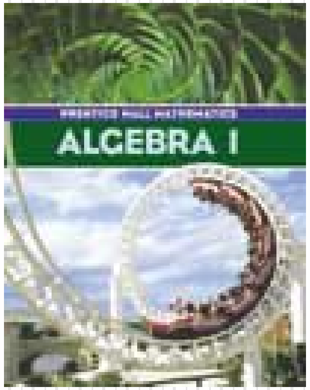
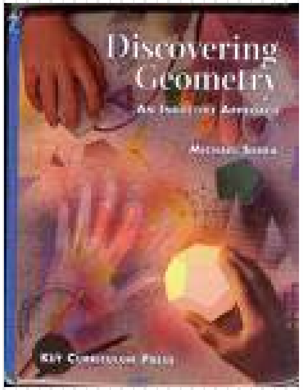
Mr. Northcutt's Math Classes
Class Presentation

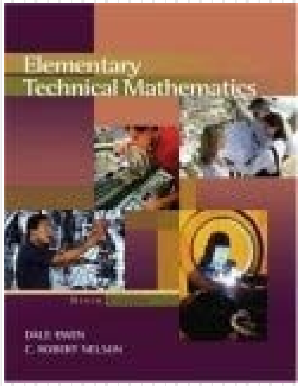
January 13, 2009 (81)



Math 1



Math 2



Applied Math

Math 1 – Daily Summary

- **Announcements**
  - Chapter 9 Test on Friday
  - Semester #1 Final and Proficiency Test Next Week
- **Class Objectives – *What you should learn today!***
  - Factor trinomials with "1" as coefficient of x^2
- **Assignment**
  - **Section 9-5:** 1-16

Factoring Trinomials

- **"Factoring" is like undoing multiplication.**

$$15 = 3 \cdot 5$$

"15 is factored into 3 and 5."

- **Is it possible to do something similar with Polynomials?**

$$(x+3)(x+5) = x^2 + 3x + 5x + (3 \cdot 5)$$
$$= x^2 + (3+5)x + 15$$
$$= x^2 + 8x + 15$$

Factoring Trinomials

- **Consider the following trinomial…what might its factors look like?**

$$x^2 + 7x + 12$$

$$(\qquad\qquad)\cdot(\qquad\qquad)$$

How do you check it?

Factoring Trinomials

- **What is different in these examples? How might we handle it?**

$$x^2 - 17x + 42 \qquad\qquad k^2 - 10k + 25$$

$$(\qquad\qquad)\cdot(\qquad\qquad) \qquad\qquad (\qquad\qquad)\cdot(\qquad\qquad)$$

One Last Challenge

- **Think about this one…how could you handle it?**

$$x^2 - 3x - 18$$

$$(\qquad\qquad)\cdot(\qquad\qquad)$$

Math 2 – Daily Summary

- **Announcements**
  - Chapter 7 Test on **Friday**!
  - Semester #1 Final and Proficiency Test Next Week**.**
- **Class Objectives – *What you should learn today!***
  - Proficiency Review
    - Order of Operations
    - Solving Equations & Inequalities
    - Linear Equations (Rate of Change, Slope-Intercept)
    - Exponents & Polynomials
    - Geometry
  - Practice with applications of Circle Conjectures
- **Assignment**
  - **Lesson 7.6**: 1-3, 5-10

Proficiency Sample Problems

- **Order of Operations**

$$2+3\cdot 5-4$$

$$(3^2-6)+(7-4^2)$$

- **Solving Equations & Inequalities**

$$\frac{1}{4}x+\frac{3}{4}=\frac{1}{3}x-\frac{5}{6}$$

$$5-3x<14$$

Proficiency Sample Problems

- **Exponents & Polynomials**

$$(6b-4x)+(-4b-2x)$$

$$(2x-3)^2$$

$$\frac{a^3b^4}{ab^6}$$

$$(2x^3y^2)(3xy^3)$$

Applied Math – Daily Summary

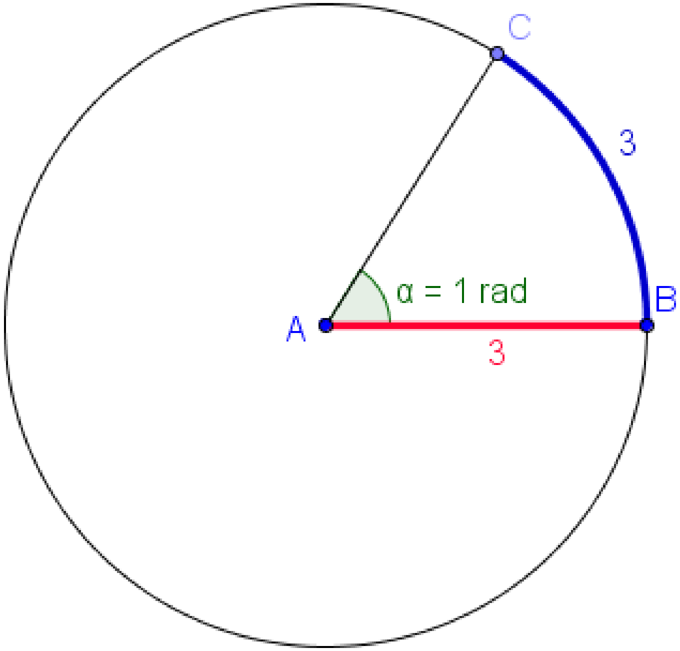
- **Announcements**
  - Chapter 12 Test Early Next Week (date TBD)
- **Class Objectives – *What you should learn today!***
  - Definition of Radian Angle Measure (Metric
    - Conversion from Radians to Degrees
    - Calculation of length of an Arc
  - Definition of the Sector of a Circle
    - Calculation of the area of a sector
- **Assignment**
  - **Section 12.6:** 3-24 ODD, 25-29, 32

Radian Measure (Metric Angle)

- **1 Radian (Angle Measure in Metric)**
  - The measure of an angle with its vertex at the center of a circle and with an intercepted arc on the circle equal in length to the radius.

$$\alpha = \frac{s}{r} \text{ or } s = \alpha r$$

s = Arc Length



- **How many Radians in a Circle?**

$$C = 2\pi r$$

Radian-Degree Conversion

- **Conversion Factors**

$$\frac{180^\circ}{\pi \text{ rad}} \qquad \frac{\pi \text{ rad}}{180^\circ}$$

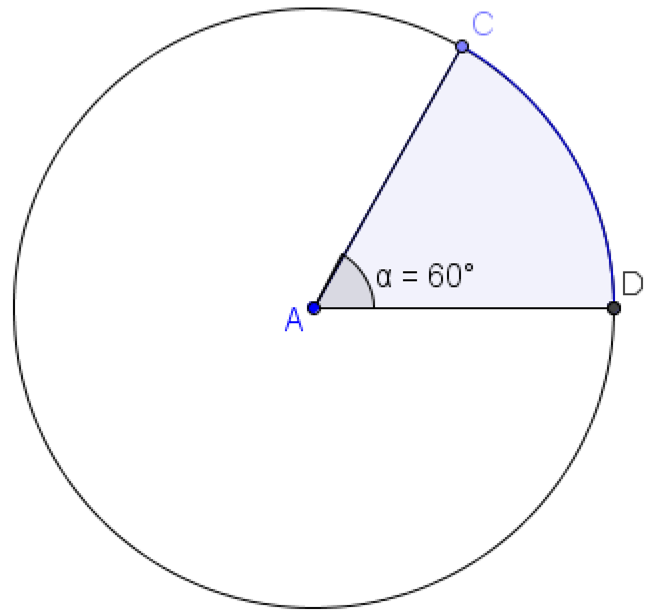
Radian to Degrees ***Degrees to Radians***

- **Example:**
  - How many radian are in an angle with measure 30º?

$$\frac{30^\circ}{1} \cdot \frac{\pi \text{ rad}}{180^\circ} = \frac{\pi}{6}\text{rad}$$

Sector of a Circle

- **Sector**
  - The region bounded by two radii of a circle and the arc intercepted by them.



- **Area of a Sector (Degrees/Radians)**
  - “Fraction” of the area of the circle.

$$A_{circle} = \pi r^2$$

$$A_{sector} = \left(\frac{\alpha}{360^\circ}\right) \cdot \pi r^2$$

$$A_{sector} = \left(\frac{\alpha}{2\pi}\right) \cdot \pi r^2 = \frac{1}{2}\alpha r^2$$